REMARKS

Independent claim 15 has been amended to incorporate the limitations of dependent claim 18 and thus dependent claim 18 has been cancelled.

Applicant apologizes for the typographical error in the header of the §1.132 declaration regarding the application number but respectfully traverses the finding that the declaration is defective under 37 C.F.R. 1.132 as a consequence of the typographical error. First, Applicant presumes the Examiner is referring to the declaration filed on 10/5/2010 as there was no declaration filed on 1/13/2010. Second, the text of the declaration, specifically in paragraph 2, correctly identifies the application number. Finally, 37 C.F.R. 1.132 does not provide that the declaration is considered defective or that it should not be considered on its merits merely because it contains a typographical error.

Applicant respectfully traverses the rejection that the currently pending claims are obvious in light of the cited references. A claim is not a mere catalog of parts but requires that various elements be combined or arranged in a certain way. *Net Moneyin, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008). It is also improper to use the invention claimed in the current application as a road map to combine various elements of prior art references as that would improperly use hindsight. *Ecolochem, Inc. v. Southern Cal. Edison Co.*, 227 F.3d 1361, 1371 (Fed. Cir. 2000).

In the current application, the pending claims all require a chromate reducer that contains **both** filter salt **and** copperas. As recognized by the Examiner, the Kehrmann reference only discloses the use of copperas (iron (II) sulfate heptahydrate) along with

limestone and does not disclose the use of filter salt (iron (II) sulfate monohydrate) in combination with the copperas. While Rasmussen contains a single reference to $FeSO_4 \cdot nH_2O$, all of the additional disclosure and examples solely relate to the use of copperas (iron (II) sulfate heptahydrate).

At most, Rasmussen suggests to one of skill in the art that other hydrates of iron (II) sulfate could be **substituted** for the heptahydrate disclosed in Kehrmann. There is no disclosure in Rasmussen or otherwise of using an **additional** iron (II) sulfate having a different level of hydration along with the heptahydrate. Since there is no disclosure of using any additional iron (II) sulfate with a different level of hydration, there necessarily is not any disclosure or suggestion to specifically use the monohydrate in combination with the heptahydrate as is required by the claims. In addition, there is no suggestion or motivation to use iron (II) sulfate monohydrate over the other possible hydrates of iron (II) sulfate at all, whether alone or in combination with the heptahydrate. Because there is no suggestion or other rationale why one of skill in the art would specifically combine the monohydrate and heptahydrate into a single chromate reducer, even the combination of the cited references do not disclose each and every limitation of the pending claims and thus cannot render them obvious.

Further, even if there is motivation for one of skill in the art to use multiple hydrates of iron (II) sulfate, there is no suggestion or motivation to use the particular ratio of filter salt to copperas required by the currently pending claims. Contrary to the assertion of the Examiner, Kehrmann and Rasmusen each only disclose a range of the total amount of chromate reducer that is used. In both cases, that chromate reducer is iron (II) sulfate heptahydrate. Consequently, even if one were inclined to use more than

one hydrate of iron (II) sulfate in a single chromate reducer, there is no guidance in the prior art that would lead one of skill in the art to use the particular claimed ratio recited in the currently pending claims.

As set forth in the §1.132 declaration filed on October 5, 2010, the combination of filter salt and copperas in a single chromate reducer provides surprising results over the use of either hydrate of iron (II) sulfate alone. Applicant respectfully asserts that the test results provided a sufficient number of tests both within and outside the claimed invention. The tests contained multiple tests of three ratios within the invention (the combination of copperas and filter salt) as well as tests that fall outside the claimed invention (individual tests of copperas and filter salt). The surprising results depicted in the testing is not based on the particular ratio of copperas to filter salt, but rather the surprising difference between the use of either component alone and the effect when both are combined into a single chromate reducer. However, in an attempt to further prosecution, the claims have been limited to recite a ratio of 1:1 to 1:5 of filter salt to copperas in order to match the ratios of the samples that were actually tested.

Contrary to the Examiner's assertion, the testing does in fact compare and evidence the improvement of the claimed invention over that of Kehrmann and Rasmussen. Both of those references only disclose the use of copperas alone. According to the test results, it would take at least 1.3 kg/t/ppm of copperas to get complete reduction of the chromate. However, when combined with filter salt in a 1:1 ratio, it only takes 0.65-1.0 kg/t/ppm of copperas to achieve the same complete reduction of chromate. Even if Rasmussen is considered to disclose the use of filter salt as a chromate reducer, it would take 2.7 kg/t/ppm of filter salt to achieve complete

reduction as compared to 1.0 kg/t/ppm of filter salt when used in a 1:1 ratio with copperas. Thus, the data shows that less of the disclosed active ingredient of the prior art reference can be used to achieve complete chromate reduction when combined in a 1:1 ratio of copperas and filter salt.

More importantly, the tests show that the combination of copperas and filter salt provides an unexpected synergistic effect. The testing attached to the §1.132 declaration shows that copperas alone is more effective than filter salt alone in reducing the amount of chromate in cement. Thus, even if the prior art suggested combining copperas and filter salt in equal amounts, one of skill would expect the resulting chromate reduction to be halfway between the results for each component alone. The fact that the combination of copperas and filter salt provides a chromate reduction that is significantly better than would be predicted or expected by one of ordinary skill in the art evidences the surprising synergistic effect of combining the two hydrates of iron (II) sulfate into a single chromate reducer.

As an example, in the Table in Section 3.1 of the tests, sample A used 0.7 kg/t/ppm of copperas alone with a MAR and achieves a reduction of chromate to 0.2 ppm and sample B used 0.7 kg/t/ppm of filter salt alone with a MAR and achieves a reduction of chromate to 10 ppm. Thus, one of skill in the art would expect that a 1:1 ratio of copperas to filter salt that totals 0.7 kg/t/ppm (like Sample C in the first row of Table 3.1) would achieve a chromate reduction to 5.1 ppm.

However, the actual 1:1 mixture of copperas and filter salt having a total of 0.7 kg/t/ppm as shown in the first row of Sample C in Table 3.1 achieved a chromate reduction to 2.2 ppm. This evidences an unexpected synergistic effect that is present

due to the combination of copperas and filter salt over the use of either alone. Similarly, a 3:1 ratio totaling 0.7 kg/t/ppm would be expected to achieve a reduction of chromate to 2.65 ppm, which is significantly higher than the actual chromate reduction of 0.3 ppm that is achieved (See first row of Sample D). Likewise, a 5:1 ratio of copperas to filter salt totaling 0.7 kg/t/ppm would be expected to achieve a reduction of chromate to 1.66 ppm, which is significantly higher than the actual chromate reduction of 0.4 ppm that is achieved (see first row of Sample E). Thus, the combination of copperas and filter salt results in an unexpected synergistic effect that provides surprisingly better results compared to what would be expected based on the chromate reduction ability of copperas and filter salt alone. These tests clearly show that there is an unexpected synergistic effect that is occurring when copperas and filter salt are used in a single chromate reducer over a range of ratios.

The surprising synergistic effect is also evidenced by the results shown in Table 3.1 when larger total amounts of reducer is used. Since copperas alone can reduce chromate to a lower level than the same amount of filter salt alone, one of skill in the art would expect that the more copperas that was present in the mixture, the lower the chromate level would be reduced. However, Table 3.1 shows that, while it still has a significant and unexpected synergistic effect, in some cases using a higher ratio of the more effective copperas in the mixture actually results in a worse overall chromate reduction. This effect can only be explained by the unexpected synergistic effect of combining copperas with filter salt as claimed by the current invention.

Based upon a combination of the reasons discussed above, it is respectfully submitted that all of the currently pending claims are patentable over the prior art.

Accordingly, allowance of this application is respectfully requested. To the extent that the Examiner is not inclined to issue a notice of allowance, Applicant respectfully requests the opportunity to conduct an interview with the Examiner to discuss any remaining issues prior to the issuance of the next office action. It is believed that a fee is due for a one-month extension of time as well as a request for continued examination, which has been authorized by the enclosed request. The Commissioner is hereby authorized to charge any other fee due in connection with the filing of this paper and the entry of the requested amendments to the Locke Lord Bissell & Liddell LLP deposit account no. 12-1781.

Respectfully submitted,

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